

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R070XC122NM

**Site Name:** Shallow Sandy Savannah

**Precipitation or Climate Zone:** 13 to 16 inches

**Phase:**

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site occurs on nearly level to moderately sloping side slopes of foothills and on tops of hills and mesas. Typically, this site grades down from the steep slopes of physiographic breaks. Slopes range from 3 to 25 percent but are usually less than 10 percent. Direction of slope varies and is usually not significant. Elevations range from 4,500 to 7,000 feet above sea level.

### **Land Form:**

1. Hillside
2. Hill
3. Mesa

### **Aspect:**

1. N/A
- 2.
- 3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	4,500	7,000
<b>Slope (percent)</b>	3	25
<b>Water Table Depth (inches)</b>	N/A	N/A
<b>Flooding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A
<b>Ponding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Depth (inches)</b>	N/A	N/A
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A

### **Runoff Class:**

Negligible to medium.

## **CLIMATIC FEATURES**

### **Narrative:**

The climate of the area is “semi-arid continental.”

The average annual precipitation ranges from 13 to 16 inches. Variations of 5 inches, more or less, are common. Seventy-five percent of the precipitation falls from April to October. Most of the summer precipitation falls in the form of high-intensity, short-duration thunderstorms.

Distinct seasonal changes and large annual and diurnal temperature changes characterize temperatures. The average annual temperature is about 50 degrees F with extremes of -29 degrees F in the winter and 103 degrees F in the summer.

The average frost-free season is 130 to 160 days. The last killing frost falling in early May and the first killing frost in early October.

Both temperature and precipitation favor warm-season, perennial plant species. However, about 40 percent of the precipitation falls at a time favorable for cool-season plant growth. This allows the cool-season species to occupy a very important component in this plant community.

Vegetation responds well to light rains due to the shallow soil depth and soil surface textures. Heavy rains produce excess runoff and can cause flash floods. Strong winds from the west and southwest blow across the area from February to June and dries the soil during a critical period for plant growth.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	131	173
<b>Freeze-free period (days):</b>	155	187
<b>Mean annual precipitation (inches):</b>	13	16

**Monthly moisture (inches) and temperature (°F) distribution:**

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.34	.92	15.6	42.1
February	.34	.81	19.9	52.9
March	.23	.98	24.4	59.7
April	.39	.96	31.4	68.9
May	.85	1.61	39.2	77.7
June	.89	1.62	46.9	87.1
July	1.77	2.75	53.1	88.5
August	2.46	3.22	51.9	85.7
September	1.54	2.26	44.3	80.4
October	1.00	1.51	32.8	70.5
November	.57	1.02	22.2	57.5
December	.34	1.16	15.9	49.3

**Climate Stations:**

Station ID	Location	Period	
		From:	To:
201918	Clines Corners 7SE, NM	12/10/68	11/30/00
292096	Corona 11SSW, NM	12/01/77	09/30/92
293060	Estancia, NM	01/01/14	12/31/00
293649	Gran Quivira Natl. Monument, NM	06/01/38	12/31/00
295965	Mountainair, NM	03/01/14	12/31/00
299405	Vaughn, NM	01/01/71	12/31/00

**INFLUENCING WATER FEATURES****Narrative:**

This site is not influenced by water from a wetland or stream.

**Wetland description:**

System	Subsystem	Class
N/A		

**If Riverine Wetland System enter Rosgen Stream Type:**

N/A

**REPRESENTATIVE SOIL FEATURES**

**Narrative:**

The soils of this site are well drained and shallow to very shallow over petrocalcic or sandstone. The surface texture is fine sandy loam. This extends to a depth of 12 to 20 inches. Petrocalcic is encountered at 12 to 20 inches. Permeability is rapid and water-holding capacity is medium.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

**Surface Texture:**

1. Fine sandy loam
2.
3.

**Surface Texture Modifier:**

1. N/A
2.
3.

**Subsurface Texture Group:** Clayey

**Surface Fragments <=3" (% Cover):** N/A

**Surface Fragments >3" (% Cover):** N/A

**Subsurface Fragments <=3" (%Volume):** 5 to 14

**Subsurface Fragments >=3" (%Volume):** 2

	<b>Minimum</b>	<b>Maximum</b>
<b>Drainage Class:</b>	<u>Well</u>	<u>Well</u>
<b>Permeability Class:</b>	<u>Very slow</u>	<u>Slow</u>
<b>Depth (inches):</b>	<u>4</u>	<u>20</u>
<b>Electrical Conductivity (mmhos/cm):</b>	<u>N/A</u>	<u>N/A</u>
<b>Sodium Absorption Ratio:</b>	<u>N/A</u>	<u>N/A</u>
<b>Soil Reaction (1:1 Water):</b>	<u>6.6</u>	<u>8.4</u>
<b>Soil Reaction (0.1M CaCl<sub>2</sub>):</b>	<u>N/A</u>	<u>N/A</u>
<b>Available Water Capacity (inches):</b>	<u>6</u>	<u>9</u>
<b>Calcium Carbonate Equivalent (percent):</b>	<u>N/A</u>	<u>N/A</u>

## **PLANT COMMUNITIES**

### **Ecological Dynamics of the Site:**

### **Plant Communities and Transitional Pathways (diagram)**

**Plant Community Name:** Historic Climax Plant Community

**Plant Community Sequence Number:** 1 **Narrative Label:** HCPC

**Plant Community Narrative:** Historic Climax Plant Community

This site has an open stand of pinyon pine and/or juniper with grass understory. The understory grasses are characterized by both warm and cool-season, mid-grasses with scattered shrubs throughout the site. Half-shrubs and forbs are a minor part of the plant community. The open stand of pinyon and juniper at one time may have been maintained by natural fire. The tree canopy cover ranges from 10 to 25 percent

Canopy Cover:

Trees 10 – 25 %

Shrubs and half shrubs 2 – 5 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 20 – 40

Bare ground 20 – 50

Surface cobble and stone 0 – 10

Litter (percent) 5 – 10

Litter (average depth in cm.) 2

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	225	563	900
Forb	24	60	96
Tree/Shrub/Vine	69	173	276
Lichen			
Moss			
Microbiotic Crusts			
Total	300	750	1,200

## **Plant Community Composition and Group Annual Production:**

### **Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	SCSC	Little Bluestem	113 – 150	113 – 150
2	BOCU	Sideoats Grama	113 – 150	113 – 150
3	BOER4	Black Grama	38 – 113	38 – 113
4	BOGR2 PLJA	Blue Grama Galleta	38 – 113	38 – 113
5	ELEL5	Bottlebrush Squirreltail	38 – 75	38 – 75
6	ERIN	Plains Lovegrass	38 – 75	38 – 75
7	KOMA	Prairie Junegrass	23 – 38	23 – 38
8	LYPH	Wolftail	23 – 38	23 – 38
9	SPCR	Sand Dropseed	38 – 75	38 – 75
10	PIMI7 PIFI	Littleseed Ricegrass Pinyon Ricegrass	38 – 60	38 – 60
11	ARIST	Threeawn spp.	23 – 38	23 – 38
12	MUTO2	Ring Muhly	23 – 38	23 – 38
13	2GRAM	Other Grasses	38 – 75	38 - 75

### **Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	ERIOG	Wildbuckwheat	23 – 38	23 – 38
15	SPCO	Scarlet Globemallow	23 – 38	23 – 38
16	CALE27	Indian Paintbrush	23 – 38	23 – 38
17	PIPA2	Wooly Indianwheat	23 – 38	23 – 38
18	2FORBS	Other Forbs	23 – 38	23 - 38

### **Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
19	PIED JUNIP	Pinyon Juniper	75 – 188	75 – 188
20	RHTR	Skunkbush Sumac	23 – 38	23 – 38
21	MATR3	Algerita	23 – 38	23 – 38
22	QUERC	Oak spp.	23 – 38	23 – 38
23	OPUNT	Cholla spp.	23 – 38	23 – 38
24	ARFR4	Fringed Sagewort	23 – 38	23 – 38
25	2SD	Other Shrubs	23 – 38	23 - 38

**Plant Type - Lichen**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

**Plant Type - Moss**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

**Plant Type - Microbiotic Crusts**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site include: hairy grama, needleandthread, New Mexico feathergrass, big bluestem, western wheatgrass, pinyon ricegrass, spike muhly, mountain muhly, Metcalfe muhly, curlyleaf muhly, silver bluestem, mat muhly, alkali sacaton, pine dropseed, sedges, and Indian ricegrass.

Other woody plants include: rubber rabbitbrush, Bigelow sagebrush, winterfat, pricklypear, fourwing saltbush, sand sagebrush, threadleaf groundsel, broom snakeweed, yucca, sacahuista, ponderosa pine and mountainmahogany.

**Plant Growth Curves**

Growth Curve ID 4322NM

Growth Curve Name: HCPC

Growth Curve Description: Open stand of pinyon/juniper w/ mixed warm/cool-season mid-grasses w/ scattered shrubs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

Habitat for Wildlife:

This site provides habitat which supports a resident animal community that is characterized by mule deer, bobcat, coyote, blacktailed jackrabbit, desert cottontail, Stephen's woodrat, rock squirrel, pinyon mouse, prairie falcon, red tailed hawk, plain titmouse, scrub jay, blacktailed rattlesnake, and red spotted toad. The woody vegetation provides nesting opportunities for many bird species.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Bond	D
Dean	?
Plack	D
Sombordoro	?

### **Recreational Uses:**

This site offers fair to good potential for hiking, horseback riding, nature observation, photography, camping, and picnicking. Hunting for mule deer is fair to good and trapping for fur-bearing animals is good.

### **Wood Products:**

This site has a potential for wood products that are limited to fuelwood and fencing materials. Although this is a limited potential, it may well be very economical. If this site has deteriorated, as much as 6 to 10 cords of fuelwood/acre may be harvested. Harvesting should be selective and done by hand cutting. Tree spacing should be at a D+15 spacing.

**Other Products:****Grazing:**

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Because of the site's potential to produce shrubs, it is very suited to browsing animals. Continuous grazing of this site during the growing season will cause the high producing desirable forage plants such as little bluestem, sideoats grama, black grama, bottlebrush squirreltail, prairie junegrass, littleseed ricegrass and sumac to decrease. This will be followed by an increase in blue grama, threeawns, ring muhly, juniper, oak, algerita, and cholla. As the condition of this site deteriorates, a sharp increase in juniper will occur. As the tree canopy increases, the understory vegetation will sharply decrease. The increased numbers of trees may be attributed partly to the control of fire. Brush management is needed once the canopy exceeds 25 percent. Mechanical control is not feasible due to the shallow and sandy nature of the soils. A system of grazing that varies the season of use is most beneficial to maintain or improve the plant community.

**Other Information:****Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	3.2 – 4.4
75 – 51	4.2 – 6.5
50 – 26	6.0 – 10.0
25 – 0	10.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

**Plant Preference by Animal Kind:**

**Animal Kind:** Livestock

**Animal Type:** Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Littleseed Ricegrass	Piptatherum micrantha	EP	U	U	D	D	D	D	D	D	D	D	D	U
Wildbuckwheat	Eriogonum spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	D	D	D	D	D	D	U	U	U	U

**Animal Kind:** Livestock

**Animal Type:** Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Little Bluestem	Schizachyrium scoparium	EP	U	U	U	P	P	P	D	D	D	D	U	U
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Prairie Junegrass	Koeleria macrantha	EP	U	U	D	D	D	U	U	U	U	U	U	U
Littleseed Ricegrass	Piptatherum micrantha	EP	U	U	D	D	D	U	U	U	U	U	U	U
Skunkbush Sumac	Rhus trilobata	L/S	P	P	P	D	D	D	D	D	D	P	P	P
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	P	P	P	D	D	D	D	D	D	U
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U

**Animal Kind:** Livestock

**Animal Type:** Goats

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Littleseed Ricegrass	Piptatherum micrantha	EP	U	U	D	D	D	U	U	U	U	U	U	U
Skunkbush Sumac	Rhus trilobata	L/S	P	P	P	D	D	D	D	D	D	P	P	P
Oak	Quercus spp.	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Wooly Indianwheat	Plantago purshii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

**Animal Kind:** Wildlife

**Animal Type:** Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Littleseed Ricegrass	Piptatherum micrantha	EP	U	U	D	D	D	U	U	U	U	U	U	U
Skunkbush Sumac	Rhus trilobata	L/S	P	P	P	D	D	D	D	D	D	P	P	P
Oak	Quercus spp.	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	P	P	P	D	D	D	D	D	D	U
Wooly Indianwheat	Plantago purshii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

## **SUPPORTING INFORMATION**

### **Associated sites:**

Site Name	Site ID	Site Narrative

### **Similar sites:**

Site Name	Site ID	Site Narrative

### **State Correlation:**

This site has been correlated with the following sites: \_\_\_\_\_

### **Inventory Data References:**

Data Source	# of Records	Sample Period	State	County

### **Type Locality:**

State: New Mexico

County: Chavez, Lincoln, San Miguel, Santa Fe, Torrance

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Section: \_\_\_\_\_

Is the type locality sensitive?    Yes ☐        No ☐

General Legal Description: \_\_\_\_\_

### **Relationship to Other Established Classifications:**

### **Other References:**

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Chaves, De Baca, Guadalupe, Lincoln, Sna Miguel, Santa Fe, Torrance.

### **Characteristic Soils Are:**

Bond	Plack
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### **Other Soils included are:**

Dean(as mapped in San Miguel County)	Sombordoro(as mapped in San Miguel County)
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### **Site Description Approval:**

<b><u>Author</u></b>	<b><u>Date</u></b>	<b><u>Approval</u></b>	<b><u>Date</u></b>
Don Sylvester	02/02/82	Donald H. Fulton	03/03/82

### **Site Description Revision:**

<b><u>Author</u></b>	<b><u>Date</u></b>	<b><u>Approval</u></b>	<b><u>Date</u></b>
Elizabeth Wright	07/05/02	George Chavez	12/17/02